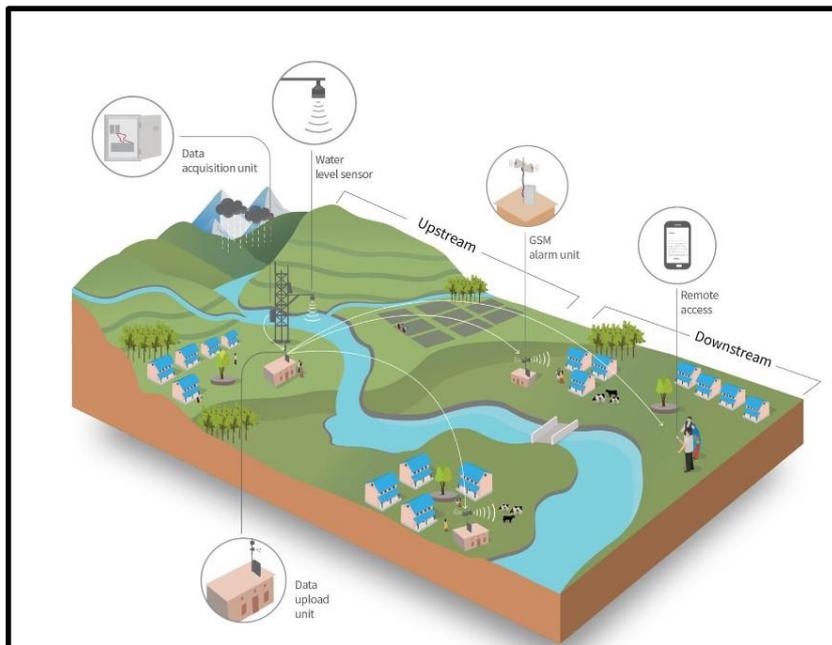


Saving Lives Across Borders: Community-Based Flood Early Warning Systems



Flood Early Warning Systems: Protecting Communities

Early warning systems play a crucial role in disaster risk management strategies for floods. These systems continuously assess flood risks by monitoring river water levels. When a flood is imminent or already happening, they trigger warnings for downstream communities.

One such innovative system is the Community-Based Flood Early Warning System (CBFEWS) co-developed and implemented by Yuganter & ICIMOD. This system consists of three key units:

- **Data Acquisition Unit:** Located upstream on the riverbank
- **Data Upload Unit:** Installed both upstream and downstream, at a safe distance from the river, this unit transmits the collected data.
- **GSM Alarm Unit:** Positioned both upstream and downstream, in vulnerable communities, this unit receives the flood warnings and triggers alarms to alert residents.

By providing timely and localized flood warnings, CBFEWS empowers communities to take necessary precautions and minimize potential damage.

Picture courtesy: ICIMOD

The Challenge:

The Hindu Kush Himalaya (HKH) region faces increasing flash flood risks due to climate change. Traditional early warnings often fail to reach vulnerable downstream communities in India, leading to loss of life and livelihoods.

The Power of Community: Flood Early Warning Saves Lives in Bihar



Community-based Flood Early Warning System (CBFEWS) empowers communities to manage flood risks. Upstream communities use simple, low-cost instruments to monitor water levels and send real-time alerts downstream via mobile phones developed by Yuganter in coordination with ICIMOD.

The story of Shrikhandi village in Bihar, bordering Nepal, offers a powerful testament to the effectiveness of community-based flood early warning systems.

In August 2017, when floodwaters from the Ratu River threatened the village, residents were prepared – unlike previous years where floods caused devastation.

The key difference? An early warning system implemented by **Yuganter**. Unlike traditional government warnings, this system involved the community from the start. Residents, alongside

government agencies, were included in every step, from design to implementation. This "human face" to the system fostered trust and ownership.

Ranjeet Kumar, the village caretaker, monitored the telemetrically linked receiver that received data from the tower on the Ratu River. In constant communication with caretakers in neighbouring Nepali villages, Kumar was able to alert not only Shrikhandi but also six surrounding villages, providing crucial lead time for preparation. This cross-border collaboration exemplifies the beauty of a community-based approach.

Kumar's timely information allowed villagers to move livestock and belongings to safety. Women and children were prepared to evacuate to designated shelters. Thanks to the system's seven to eight hours of warning, the community successfully weathered the initial flood wave. Today, Kumar takes pride in his role. The system empowered villagers, giving them the "power of information" to protect themselves and their livelihoods. They are living proof that community involvement saves lives. Shrikhandi residents now hope to see this life-saving system implemented on other rivers, protecting more communities, and fostering resilience in the face of floods.